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IEMA Sampling Results Show No Measureable Increases in Radiation Near Byron Nuclear Power Plant

Water, Vegetation Samples Analyzed by IEMA

SPRINGFIELD – Laboratory analysis of environmental sampling conducted by the Illinois Emergency Management Agency (IEMA) earlier this week showed no measureable increases of radiation in the environment as a result of a steam release from the Byron Nuclear Power Plant. The release occurred during an Unusual Event incident at the plant on Monday following a loss of off-site power.

“Our laboratory results confirm that the steam release at the Byron Nuclear Power Plant on Monday presented no health hazard for people who live and work in the area,” said IEMA Director Jonathon Monken.

An IEMA environmental monitoring team on Tuesday collected water and vegetation samples that were analyzed for tritium in the agency’s radiochemistry laboratory in Springfield. The testing included water samples from four locations where routine samples were taken on Jan. 11. Results from the samples collected this week were statistically the same for three of the samples.

A fourth sample showed a lower level of tritium in the Jan. 31 sample than the Jan. 11 sample, which had an activity concentration of 519 picocuries per liter (pCi/L). Monken said that level isn’t cause for concern as the U.S. Environmental Protection Agency (USEPA) maximum contaminant level for tritium in drinking water is 20,000 pCi/L. Therefore, the measured activity concentration (519 pCi/L) is almost 39 times less than the USEPA maximum contaminant level for tritium in drinking water.

In addition, vegetation samples were collected from four areas. IEMA identified Potassium-40, a naturally occurring radionuclide, in the samples. Potassium-40 levels detected ranged from 3.26 picocuries per gram (pCi/g) to 6.37 pCi/g. Because it is naturally occurring, Potassium-40 can be found in many other items, including bananas. Bananas average approximately 3.5 pCi/g of Potassium-40.

Tritium is a radioactive isotope of the element hydrogen that is naturally occurring. It is also produced during the operation of nuclear power plants.

Results from the Jan. 31 sampling near the Byron Nuclear Power Plant and a fact sheet about tritium are available on the IEMA website at www.iema.illinois.gov.